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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/604,423 06/26/00 BIEBL

A GR-99-P-5540

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MMC2/0626

EXAMINER

NEGRON, I

ART UNIT

PAPER NUMBER

2875

DATE MAILED:

06/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/604,423

Applicant(s)

BIEBL ET AL.

Examiner

Ismael Negron

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Title

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: **LED Component Group with Heat Dissipating Support.**

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the

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claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

In the present instance, claim 1 recites the broad recitation "*a material having a thermal conductivity of better than 1 W/K·m*" (lines 5 and 6), and the claim also recites "*in particular of at least 1.5 KW·m*" (line 6 and 7) which is the narrower statement of the range/limitation. Also note the following:

- claim 5, "*the component is an electronic circuit*" (lines 2 and 3) and "*in particular an integrated circuit*" (lines 3 and 4);
- claim 9, "*the distance between two adjacent LED's is at most 5mm*" (line 3) and "*preferably less than 2mm*" (lines 3 and 4)
- claim 10, "*the support is mounted on a further heat dissipating material*" (lines 2 and 3) and "*in particular a separate thermal plate or body part of a vehicle*" (lines 3 and 4); and
- claim 13, "*a distance between two adjacent LED's of at most 5mm*" (lines 6 and 7) and "*preferably less than 2mm*" (line 8).

3. Claim 3 is presented in an improper Markush group (see MPEP 2173.05 h), and is indefinite since it is unclear if the claimed support is made "from a material selected from the group consisting of ceramic, non-conducting cermet, and plastic or composite material", or "from the group consisting of ceramic, non-conducting cermet, plastic and composite material". Correction is required.

4. Claims 2, 4, 6-8, 11 and 12 are rejected for their dependency on rejected claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-10 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Roney et al. (U.S. Pat. 5,528,474).

Roney et al. discloses a light emitting diode (LED) vehicle lamp, having:

- **a support**, Figure 2, reference numbers 14 and 20;
- **a plurality LED's at a predetermined distance**, Figure 2, reference number 12;
- **connecting lines electrically connected to the LED's**, inherent;
- **the support being composed of a material with a thermal conductivity of at least 1.5 W/K·m**, columns 2 and 3, lines 59-67 and 1-56, respectively;
- **the support being able to be populated by means of surface mounted devices (SMD)**, inherent;
- **the support being composed of a material selected from the group consisting of ceramic, non-conducting cermet, plastic, or composite material**, column 3, lines 23-31;
- **at least one other component fixed to the support**, Figure 2, reference number 22;

- **the LED lamp being part of a surface lighting lamp, inherent;**
- **the plurality of LED being arranged regularly on the support,**
Figure 2;
- **the plurality of LED being arranged in a rows and columns**
pattern, Figure 1;
- **the support being mounted on another heat-dissipating**
material, Figure 2, reference number 10; and
- **the LED being arranged at less than 5 mm distance from one**
another without limiting the forward current, Figure 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roney et al. (U.S. Pat. 5,528,474).

Roney et al. discloses a light emitting diode (LED) vehicle lamp, having:

- **a support, Figure 2, reference numbers 14 and 20;**
- **a plurality LED's at a predetermined distance, Figure 2,**
reference number 12;
- **connecting lines electrically connected to the LED's, inherent;**

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- **the support being composed of a material with a thermal conductivity of at least 1.5 W/K·m, columns 2 and 3, lines 59-67 and 1-56, respectively;**
- **the support being able to be populated by means of surface mounted devices (SMD), inherent; and**
- **the support being composed of a material selected from the group consisting of ceramic, non-conducting cermet, plastic, or composite material, column 3, lines 23-31.**

Roney et al. discloses all the limitations of the claims, except an additional circuit element being located on the support, such additional circuit element being an integrated circuit (IC).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to affix additional electronic circuits, specially integrated circuits (IC), to the support of Roney et al. since the examiner takes Official Notice that such arrangements and their advantages (i.e. reduce size, higher efficiency, ease of manufacturing) are old and well known in the art.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roney et al. (U.S. Pat. 5,528,474).

Roney et al. discloses a light emitting diode (LED) vehicle lamp, having:

- **a support, Figure 2, reference numbers 14 and 20;**

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- **a plurality LED's at a predetermined distance**, Figure 2, reference number 12;
- **connecting lines electrically connected to the LED's**, inherent;
- **the support being composed of a material with a thermal conductivity of at least 1.5 W/K·m**, columns 2 and 3, lines 59-67 and 1-56, respectively; and
- **the LED lamp being part of a surface lighting lamp**, inherent;
- **the plurality of LED being arranged regularly on the support**, Figure 2.

Roney et al. discloses all the limitations of the claims, except the LED lamp having a height of less than 10 mm.

It would have been an obvious matter of design choice to make the LED lamp of Roney et al. with a height of less than 10 mm, since such modification involves only a change in size. It has been held that where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

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Relevant Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Natori (U.S. Pat. 5,657,159 and 5,835,269), **Hochstein** (U.S. Pat. 6,045,240), **Masami et al.** (U.S. Pat. 4,729,076), **Nishihashi et al.** (U.S. Pat. 5,038,255), **Himeno et al.** (U.S. Pat. 5,390,093), **Roney et al.** (U.S. Pat. 5,632,551), and **Hochstein** (U.S. Pat. 5,782,555 and 5,785,418 and 5,857,767) disclose LED lamps having heat management means.

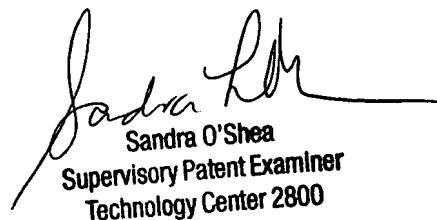
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ismael Negrón whose telephone number is (703) 308-6086. The examiner can normally be reached on Monday-Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra L. O'Shea, can be reached on (703) 305-4939. The facsimile machine number for the Art Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956.


Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800

Inr

June 23, 2001